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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,316	11/14/2000	Lars-Olof Ohberg	1878/00037	4171

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EXAMINER

SAADAT, CAMERON

ART UNIT	PAPER NUMBER
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3713

DATE MAILED: 10/24/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/700,316

Applicant(s)

OHBERG ET AL.

Examiner

Cameron Saadat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

In response to amendment filed 7/15/03, claims 7-16 and newly added claim 17 are pending in this application.

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 7-14 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Pace (Effective Calculations in Captive-Carry HIL Missile Simulator Experiments).**

Regarding claim 7 and 17, Pace discloses a method for simulating a missile with a simulator during testing of an aircraft weapon system, specifically using Hardware-in-the-loop (HIL) missile simulator technology for testing and evaluating the effectiveness of electronic countermeasures on the flight path of missiles, the method comprising: generating a target seeker command position operative to command a target seeker of a real missile to adopt a predetermined position (P. 124, ¶ 2); generating a target seeker actual position; generating a trouble signal by determining a difference between the target seeker command position and the target seeker actual position; determining an error in amplitude and angle of a vector that specifies a direction to a target; based upon the error in amplitude and angle of the vector, an actual value signal is generated (P. 125-129; Figs. 3, 6).

Regarding claim 8, Pace discloses a method wherein the trouble signal is measured continuously in an interface and wherein the error in amplitude and phase angle comprises a difference between a

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vector corresponding to the target seeker command position and a vector corresponding to the target seeker actual position which has been deviated by electronic countermeasures, the method further comprising: transmitting the error in amplitude and phase angle to a missile model in the simulator to reacquire the apparent target (See P. 125-129; Figs. 3, 6)

Regarding claim 9, Pace discloses a method wherein for each measured trouble signal the missile model calculates a new actual value of the target seeker actual position and transmits the actual value to the interface in the form of an actual value for an amplitude of the target seeker command position vector and phase angle of the target seeker command position vector (See Fig. 3).

Regarding claim 10, Pace discloses a method wherein the interface reproduces a continuous actual value signal from the values for amplitude and phase angle received from the missile model (See Fig. 3).

Regarding claim 11, Pace discloses a method wherein interface inverts the actual value signal, specifically, the apparent target is transposed by subtracting the position of the true target and further rotating the apparent target (See P. 128).

Regarding claim 12, Pace discloses a method wherein the trouble signal is generated in a summing unit in the weapons system by summing the command signal from the weapons system and the inverted actual value signal in the summing unit (P. 128, Eq. 12).

Regarding claim 13, Pace discloses a method wherein simulated conditions are utilized to affect input to a missile control (See P. 125-129; Figs. 3, 6).

Regarding claim 14, Pace discloses a method wherein the trouble signal is utilized as a control signal for the target seeker ((See P. 125-129; Figs. 3, 6).

3. **Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pace (Effective Calculations in Captive-Carry HIL Missile Simulator Experiments) in view of Phillips.**

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Regarding claims 15 and 16, Pace discloses all of the claimed subject matter including an interface for receiving and generating signals, yet it is not explicitly stated that the generated and received signals are *time discrete signals*. However, Phillips discloses a method of modeling a feedback control system comprising time discrete signals (See P. 468). Hence, it would have been obvious to a person of ordinary skill in the art to modify the feedback system described in Pace, by applying a linear time-invariant discrete feedback system, in light of the teachings of Phillips, in order to allow modeling of *digital* controllers that can accept information only at discrete values of time (see Phillips P. 469).

#### *Conclusion*

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The examiner can normally be reached on M-F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa J Walberg can be reached on 703-308-1327. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

CS

  
Teresa Walberg  
Supervisory Patent Examiner  
Group 3700